Planning Horizons

Sacramento, CA

March 23, 2016

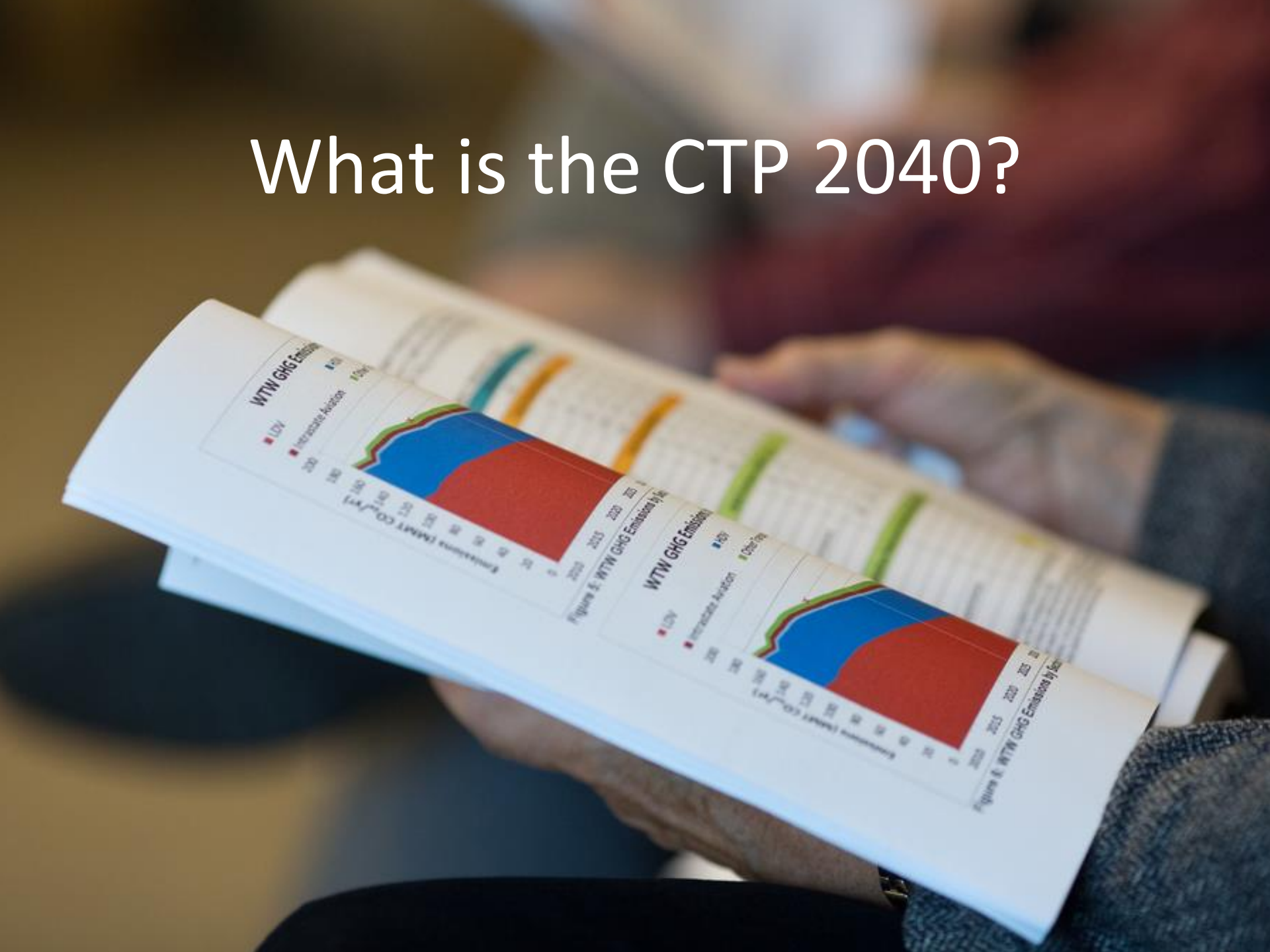
Chris Ratekin, Chief,
Office of State Planning

Caltrans

Agenda

1. What is the CTP 2040?
2. Vision and Framework for California's Transportation System
3. The Transportation System
4. Modeling Theoretical Transportation Scenarios
5. Public Participation
6. Achieving Success
7. What's Next

What is the CTP 2040?



What is the CTP 2040?

A statewide, long-range transportation plan that:

- Is done every 5 years with a 20-year horizon
- Defines goals, policies, and strategies and the future statewide, multimodal transportation system
- Integrates statewide modal plans
- Builds upon Regional Transportation Plans and Sustainable Communities Strategies
- Analyzes future alternatives and policies using robust modeling tools

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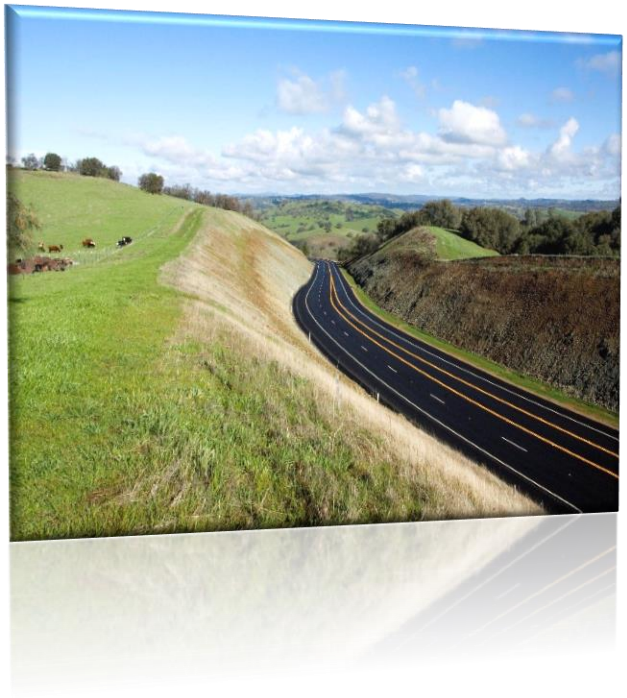
What is the CTP 2040?

It is a vision for California's Transportation Future.



The California Transportation Plan (CTP) is a statewide, long-range transportation policy plan designed to meet the State's future transportation needs.

It looks at the State's Transportation needs for the ***next 25 years.***

Caltrans prepares the CTP in response to federal (Map 21) and State (SB 391) laws and requirements **every five years**.

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Federal Legislation

23 CFR 450.200

Federal regulations that requires each state to carry out a continuing, cooperative, and comprehensive statewide multimodal transportation planning process, including the development of a long-range transportation plan and statewide transportation improvement program (STIP).

23 USC 135

This federal law requires the development of a statewide long-range transportation plan and statewide transportation program for all areas of the State. It requires the State to develop statewide long-range transportation plan with a minimum 20-year forecast period, which provides for the development and implementation of the State's intermodal transportation system.

State Legislation

- **AB 32, the Global Warming Solution Act of 2006,** requires reduction of greenhouse gas emissions to 1990 levels by 2020.
- **SB 375** requires sustainable communities strategies (SCS).
- **SB 391** requires Caltrans to update the CTP every five years to show how to achieve statewide greenhouse gas emission (GHG) reduction consistent with Executive Order S-3-05.
- **AB 857 – State Planning Priorities** requires equitable infill development.
- **SB 743** changes the California Environmental Quality Act (CEQA) criteria to implement GHG emissions reduction.
- **Executive Order S-3-05** calls for emissions to be reduced to 80% below 1990 levels by 2050.

Why it is Important

1. Better understand interregional travel patterns and promote system cohesiveness

2. Summary of trends, challenges and themes from around the State

3. Forum to elevate issues to policy and decision makers and better coordination in general

4. Data consistency and transparency on interregional and freight movement

5. Models what kind of system is needed to reach California's GHG reduction goals

Why it is Important

Reducing Greenhouse Gases: Shared Responsibilities SB 375 (Steinberg) and SB 391 (Liu)

Regional Transportation Plan (RTP)

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- **Delivering better projects**
- **Using resources more efficiently**

Vision and Framework for California's Transportation System

The CTP 2040 Vision

California's transportation system is **safe, sustainable**, universally **accessible**, and **globally competitive**. It provides **reliable** and **efficient mobility** for people, goods, and services, while meeting the State's greenhouse gas emission reduction goals and **preserving** the unique character of California's communities.

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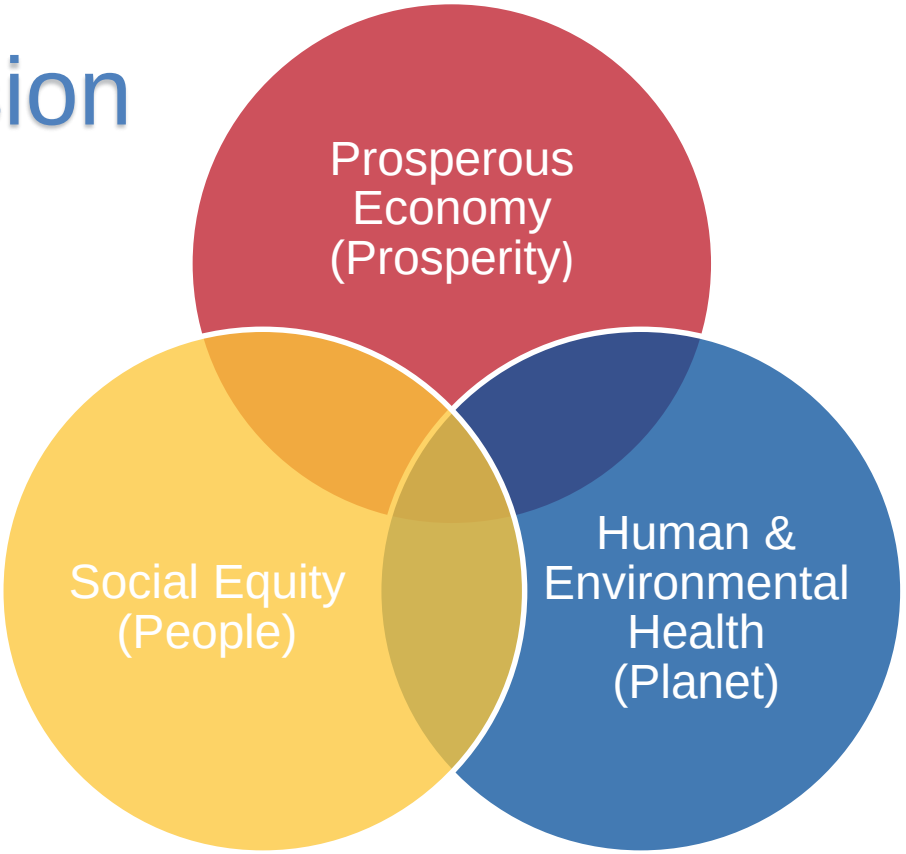
CTP – The Next 25 Years

Key to this vision is the 3 Es of sustainability:



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Modal Plans

INTEGRATES MODAL PLANS

HIGHWAY PLAN
Interregional Transportation Strategic Plan
2015

TRANSIT PLAN
Statewide Transit Strategic Plan
2012/Update being scoped

FREIGHT PLAN
Freight Mobility Plan
2014

AVIATION PLAN
California Aviation System Plan
2011/2016

RAIL PLAN
California State Rail Plan
2013/2017

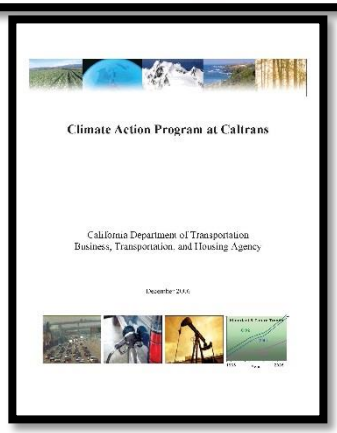
CALIFORNIA STATE BIKE&PED PLAN
2017

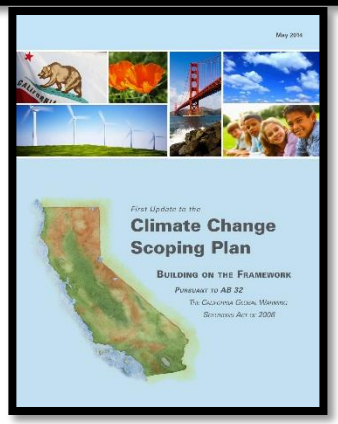
Programs

INTEGRATES STATEWIDE PROGRAMS

CALIFORNIA HIGH-SPEED RAIL

CLIMATE ACTION PROGRAM





CLIMATE CHANGE SCOPING PLAN

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Regional Transportation Plans

Integrates Regional Plans and Sustainable Communities Strategies

METROPOLITAN TRANSPORTATION COMMISSION

MCOG

SACOG

SANDAG

ACTC

50 YEARS SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

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Reducing Greenhouse Gases: Shared Responsibilities SB 375 (Steinberg) and SB 391 (Liu)

Regional Transportation Plan (RTP)

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- **Delivering better projects**
- **Using resources more efficiently**

CTP Chapters

Chapter 1	Vision and Framework for California's Transportation System
Chapter 2	The Transportation System
Chapter 3	Modeling Theoretical Transportation Scenarios
Chapter 4	Achieving Success

Appendices

1. Performance Measures
2. Transportation System and Non Motorized Facilities
3. Strategies and Performance Measures for Achieving Success
4. Trends and Opportunities
5. Native American
6. Revenues and Expenditures
7. Technical Analysis
8. Recommendations Matrix

The Transportation System

Highway, Road, and Bridges

HIGHWAY AND ROAD CENTERLINE* MILES (2012)[1]		
State highway system (SHS)	15,147	miles
County roads	65,044	miles
City roads	75,572	miles
Federally owned roads	16,708	miles
Other jurisdictions	3,347	miles
Total Highway and Roadway Distance	**175,818**	**miles**

BRIDGES[4]	
State owned bridges and other structures (ferry boats, tunnels, tubes, large-crossing & small crossing bridges)	13,133

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Freight Ports

FREIGHT AND PASSENGER RAIL ROUTE MILEAGE[2]		
Passenger: state corridors	887	miles*
Passenger: interstate AMTRAK corridors	1,663	miles*
Freight: class 1 railroads	3,928	miles*
Freight: regional and short line railroads	1,317	miles*
Freight: switching and terminal railroads	275	miles

PORTS[4]	
California seaports (Both inland and coastal)	12

** Route miles are estimated by adding each agency or railroad company's reported operating route miles (for 2010, the last available year recorded). Thus total route miles are less than shown because some railroad route miles are shared by more than one railroad company or agency.*

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Air

AIR (2013)[3]	
Commercial service airports	29
General aviation airports	216
Special-use airports	66
Hospital heliports	160
Heliports (fire, police, commuter, private)	505

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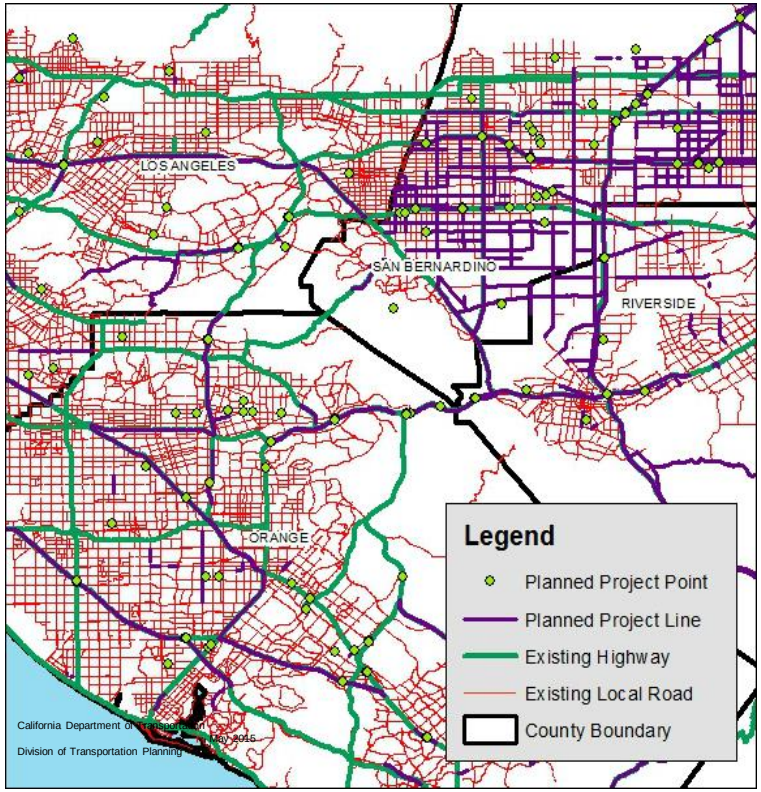
Transit

TRANSIT[3]	
Transit Vehicles Available for Maximum Service	21,866
Unlinked Transit Passenger Trips	1.4 billion^
Number of Trains in Operation (Average Weekday)	444
Transit Passenger Stations	707
Multi-Modal Transit Passenger Stations	389

State Transportation Project Inventory

- **GIS** Current Data **Repository**
- 25-Year long range RTP Fiscally Constrained **Planned Projects**
- Facilitates early coordination efforts in **scoping & planning considerations** with agencies, advocates, and stakeholders' respective programs
- **Opportunities** in **pooling funds** & **reducing costs**
- **Identify gaps** and **reveals deficiencies** in **all modes**



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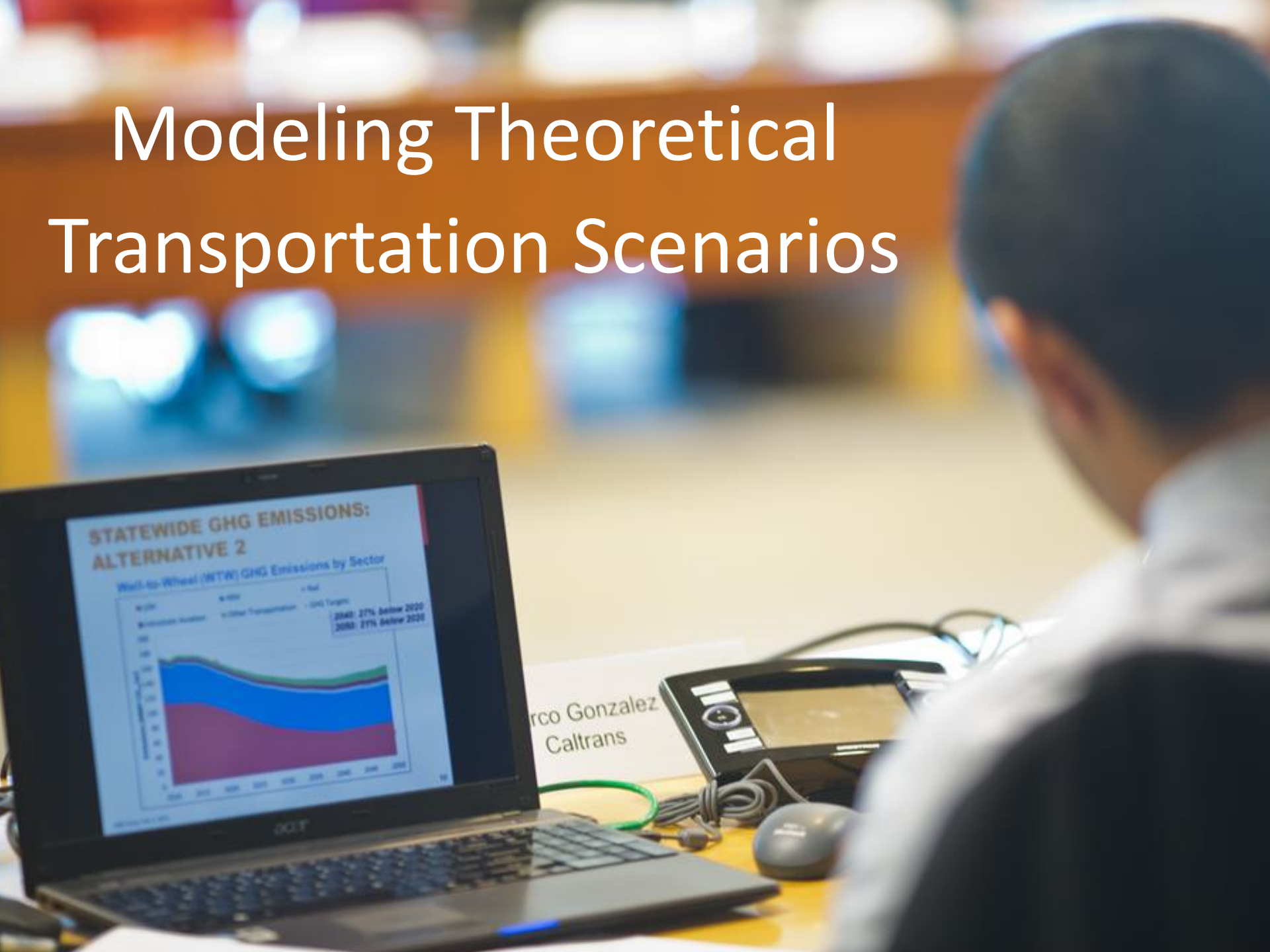
Modeling Theoretical Transportation Scenarios



CSTDM – Inputs, Models, and Outputs

Inputs

- Zone system
- Road network
- Transit network
- Population
- Employment
- Other zonal properties

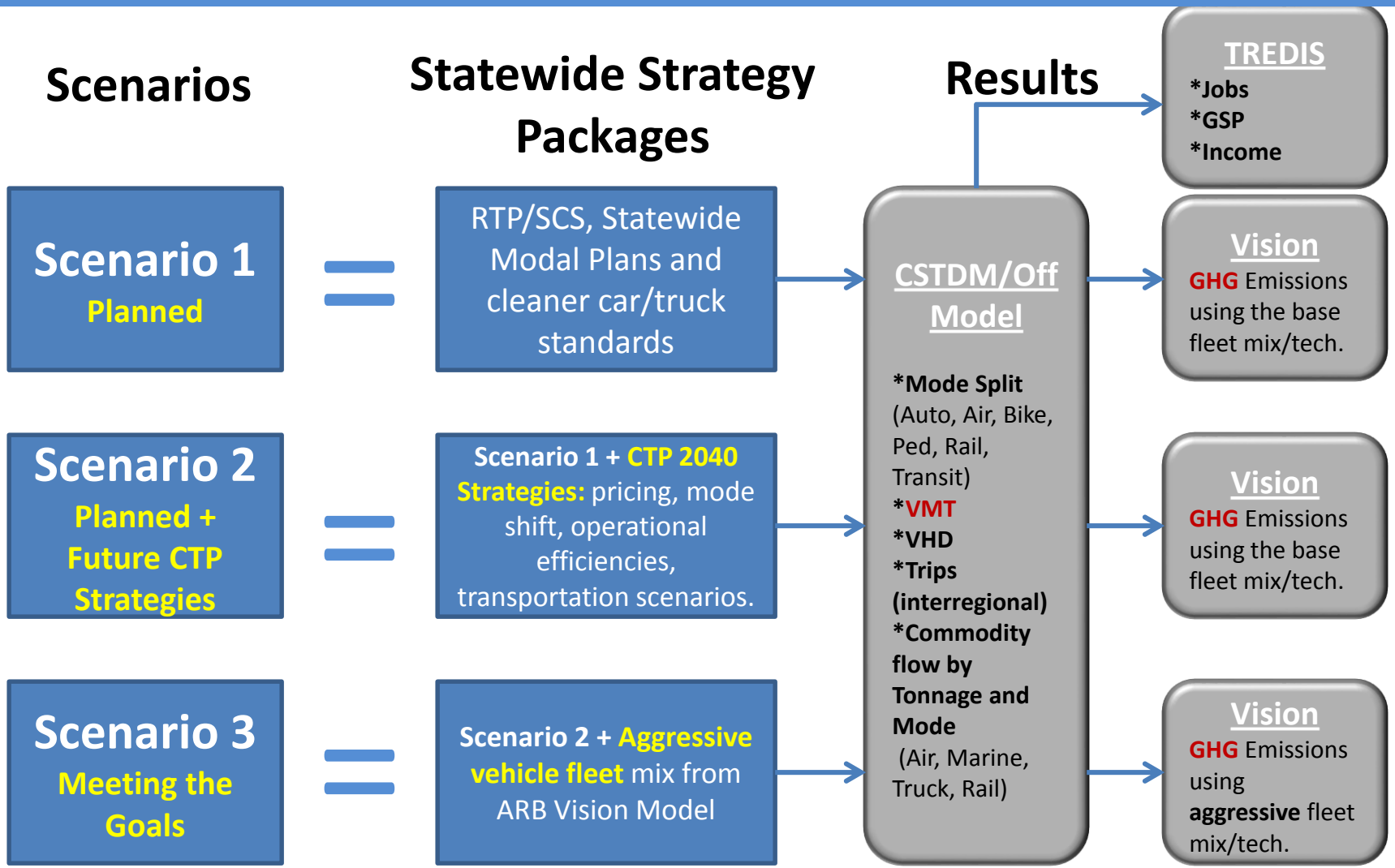
Models

- Short-distance personal travel model (SDPTM)
- Long-distance personal travel model (LDPTM)
- Short-distance commercial vehicle model (SDCVM)
- Long-distance commercial vehicle model (LDCVM)
- External travel model (ETM)

Outputs

- Trip lists
- Trip tables
- Loaded network
- Travel times and costs
- Summary travel statistics
- Maps
- Graphs

CTP 2040 Scenarios DRAFT



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Modeling our Scenarios

CTP2040 MODELING
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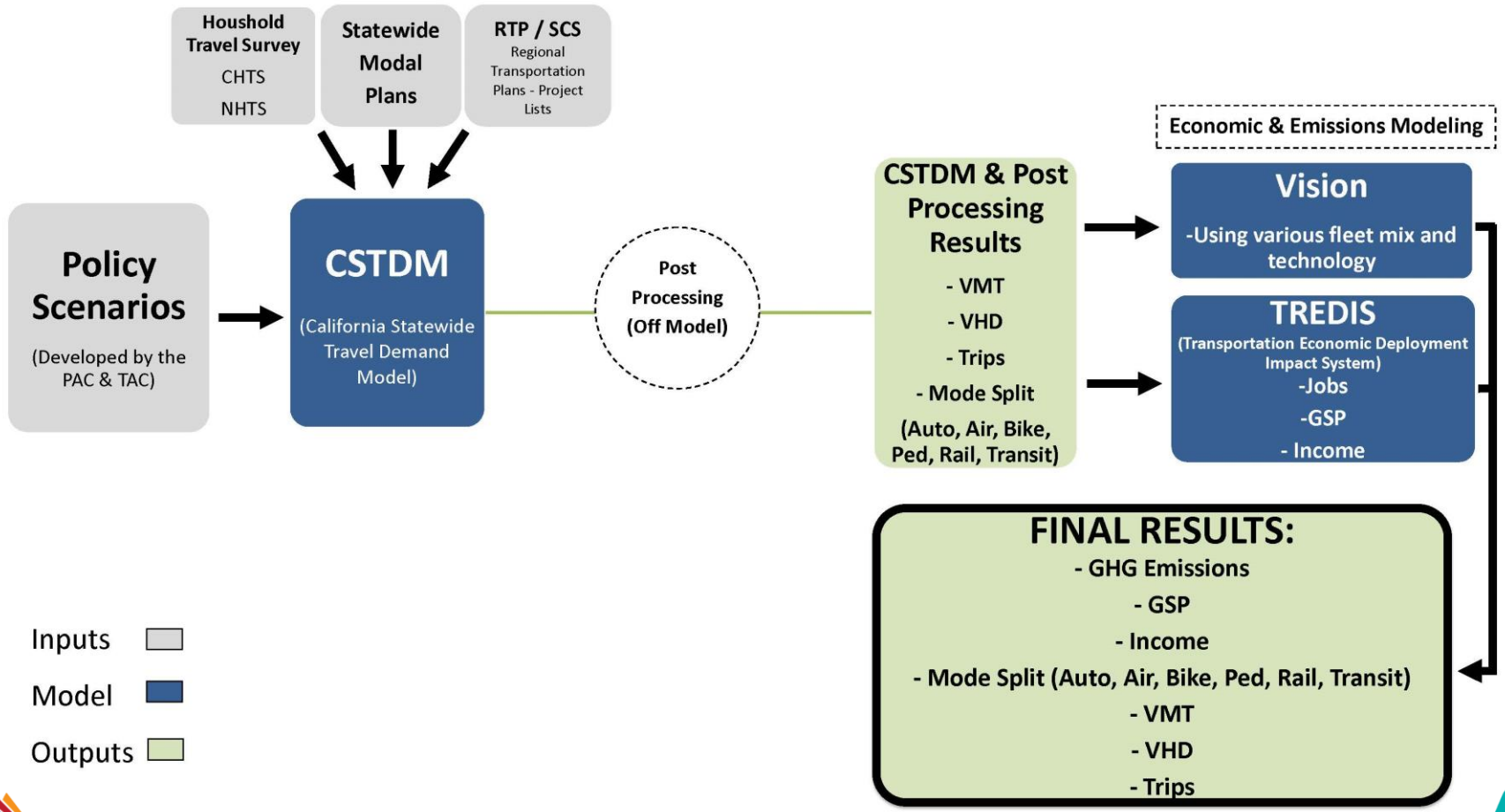

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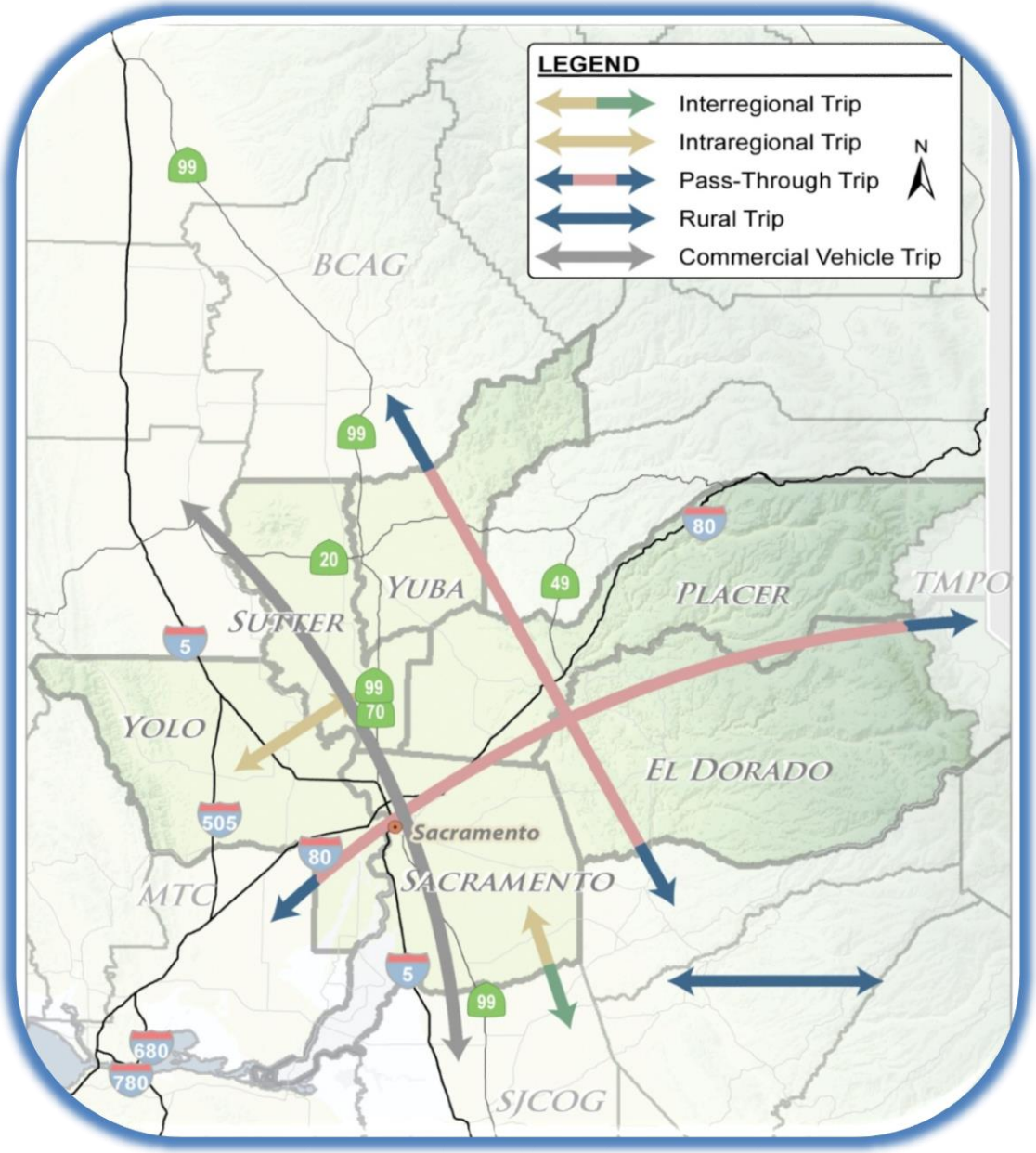
Trip Types Captured by Statewide Model



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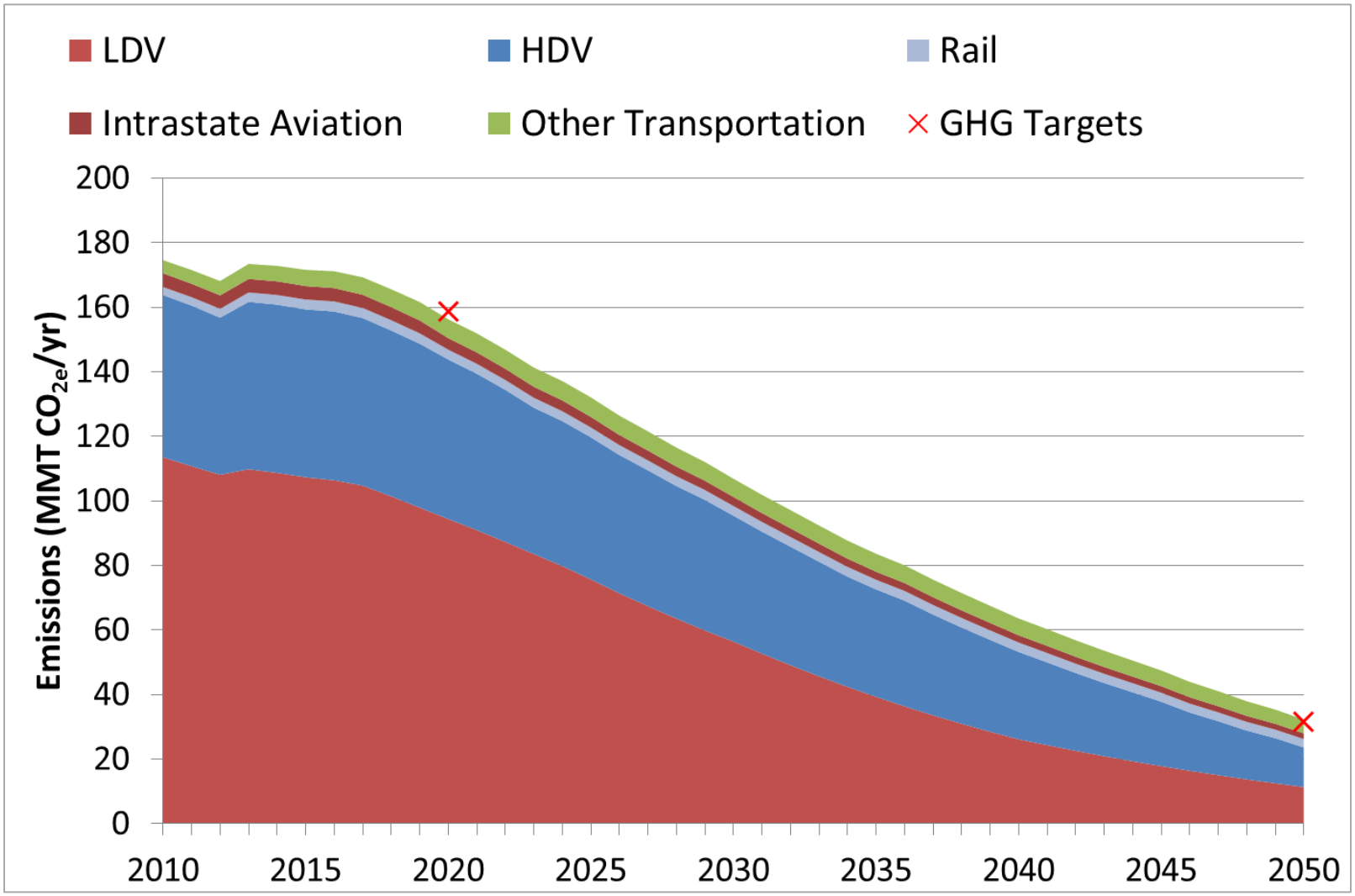
Tank-to-Wheel GHG Emissions by Sector- Scenario 3



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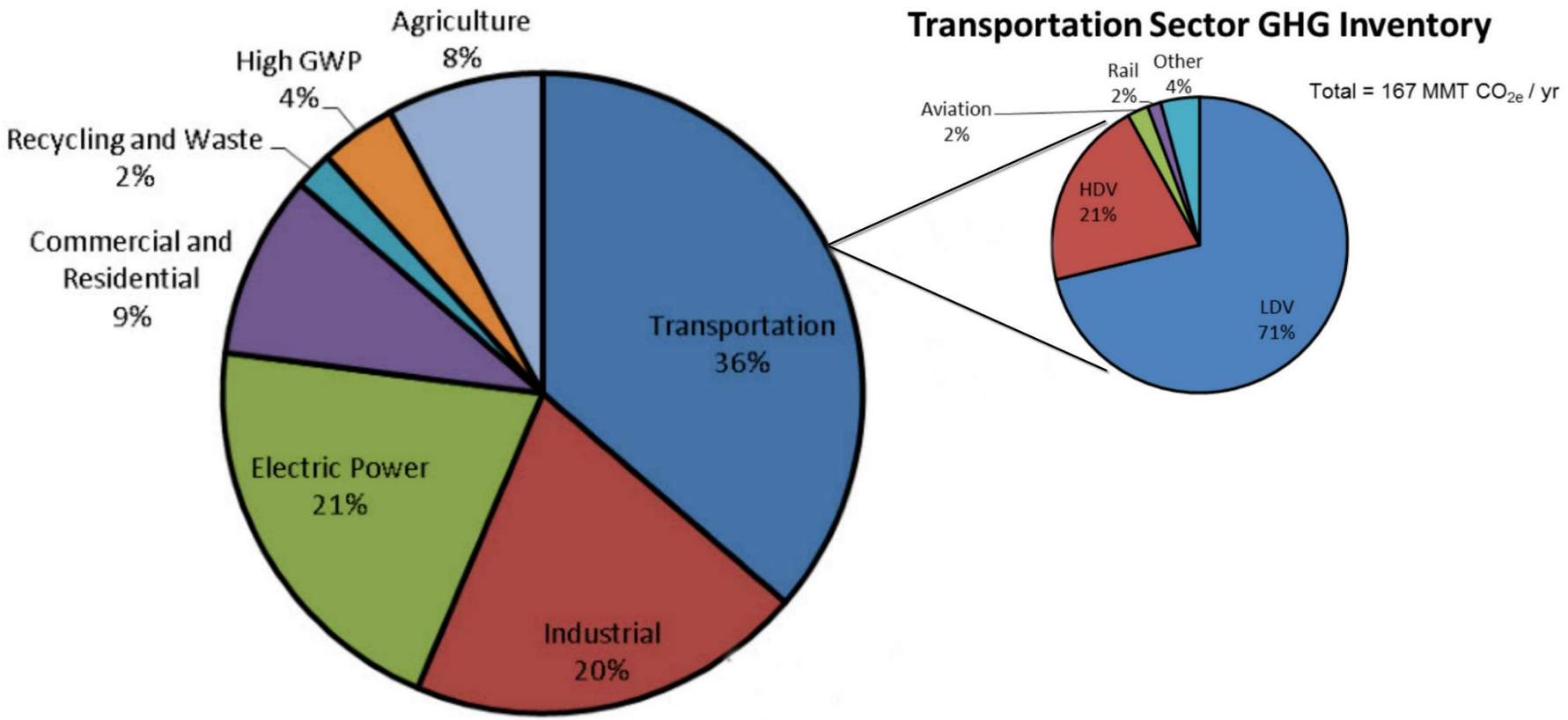
2012 Baseline GHG Inventory



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Scenarios & Analysis

	Scenarios		
	1	2	3
MPO SCS Land Use & Transportation Plans	√	√	√
Caltrans Modal Plan	√	√	√
ARB Advanced Clean Cars and In-Use Standards	√	√	√
Transportation VMT Reduction Strategies		√	√
Additional future fuel efficiencies and vehicle technologies			√

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CTP Scenarios

SCENARIO 1:
CURRENT MPO AND STATE MODAL PLANS

SCENARIO 2:
CURRENT PLANS + PROPOSED STRATEGIES

SCENARIO 3:
MEETING THE GOALS

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Scenario 1: MPO and State Modal Plans

Components:

- MPO Sustainable Communities Strategies land use and transportation plans, effective Spring 2013.
- Caltrans' Modal Plans, including
  - The California Aviation System Plan (CFMP).
  - California Freight Mobility Plan (CFMP).
  - Interregional Transportation Strategic Plan (ITSP).
  - California State Rail Plan (CSRP)
  - Statewide Transit
- The current mix of fuel efficiency and vehicle technology were determined by the ARB Advanced Clean Cars and In-Use Standards.

Scenario 2: Current Plans and Proposed Strategies

Components:

- MPO Sustainable Communities Strategies (same as Scenario 1).
- Caltrans' Modal Plans (same as Scenario 1).
- Fuel and vehicle technologies (same as Scenario 1).
- CTP 2040 package of GHG reduction transportation strategies.

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CTP 2040

	CATEGORY / STRATEGY	ASSUMPTION	EVALUATION METHOD: SOURCE	VMT REDUCTION (ESTIMATED)
	DEMAND MANAGEMENT			
1	**Telecommute/ Work at Home**	2.1% increase in work at home rate	Off-Model: SACOG	-0.39%
2	**Increased carpoolers**	5% increase in carpool vehicles	Off-Model: Calculated using CSTDM data	-2.9%
3	**Increased Car Sharing**	Net 5% increase in adoption rates -- short distance travel	Off-Model: MTC, ARB Draft Policy Brief	-1.1%

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	CATEGORY / STRATEGY	ASSUMPTION	EVALUATION METHOD: SOURCE	VMT REDUCTION (ESTIMATED)
	MODE SHIFT			
4	**Transit Service Improvements (Urban and Intercity – rail, bus and ferry)**	Transit speeds increased by 50%; headways doubled, free transfers, reduced transfer wait times	CSTDM	-6% (includes Transit Service Improvements and HSR fare reductions)
5	**High-Speed Rail**	Maximize incentives for High-Speed Rail Ridership	CSTDM	Included as part of transit service improvements
6	**Bus Rapid Transit**	Ridership change from converting Local Bus Routes to BRT	Off Model: TCRP 118, CSTDM Data	-0.07%
7	**Expand Bike**	Doubled bicycle shares	Off Model: CSTDM Data	-0.41%
8	**Expand Pedestrian**	Double walk shares	Off Model: CSTDM Data	-0.43%
9	**Carpool Lane Occupancy Requirements**	Increase minimum 2+ occupancy to 3+	CSTDM	-0.80%
10	**Increased HOV Lanes**	Added HOV lanes, Interregional connectors; Fill missing gaps (mixed flow lanes converted to HOV)	Off Model; Estimate	-1.0%

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	CATEGORY / STRATEGY	ASSUMPTION	EVALUATION METHOD: SOURCE	VMT REDUCTION (ESTIMATED)
	TRAVEL COST			
11	**Implement Expanded Pricing Policies**	Utilize pricing and vehicle fees to fund infrastructure improvements, manage congestion and improve roadways	CSTDM	-17%

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	CATEGORY / STRATEGY	ASSUMPTION	EVALUATION METHOD: SOURCE	VMT REDUCTION (ESTIMATED)
	OPERATIONAL EFFICIENCY			
12	**Incident/Emergency Management**	Implementation of Caltrans System Management and Operations Plan	Off Model: Caltrans	-1.0% equivalent VMT savings
13	**Caltrans' (TMS) Master Plan**	Implementation of TMS Master Plan	Off Model: Caltrans	-1.2% equivalent VMT savings
14	**ITS/TSM**	Implementation of ITS/TSM strategies	Off Model: SACOG	-0.62%
15	**Eco-driving**	Reduced fuel consumption through changes in driving habits	Off Model: ARB Policy Brief	-0.23% equivalent VMT savings

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Scenario 3: Meeting the Goals

Components:

- MPO Sustainable Communities Strategies (same as Scenario 1).
- Caltrans' Modal Plans (same as Scenario 1).
- Fuel and vehicle technologies (same as Scenario 1).
- CTP 2040 package of GHG reduction transportation strategies (same as Scenario 2).
- A fleet mix of additional future fuel efficiencies and vehicle technologies, as assessed by ARBs Vision for Clean Air model, designed to meet GHG emission reduction goals for 2020 and 2050.

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Economic Impact Analysis

TABLE 17. ECONOMIC IMPACT AND GROWTH

	Average Annual Impact	Economic Growth Total Value 2040
GSP ($bil)	+<1%	+400 - 500
Wages ($bil)	+1.0%	+300 - 400
Employment	+	+38,000

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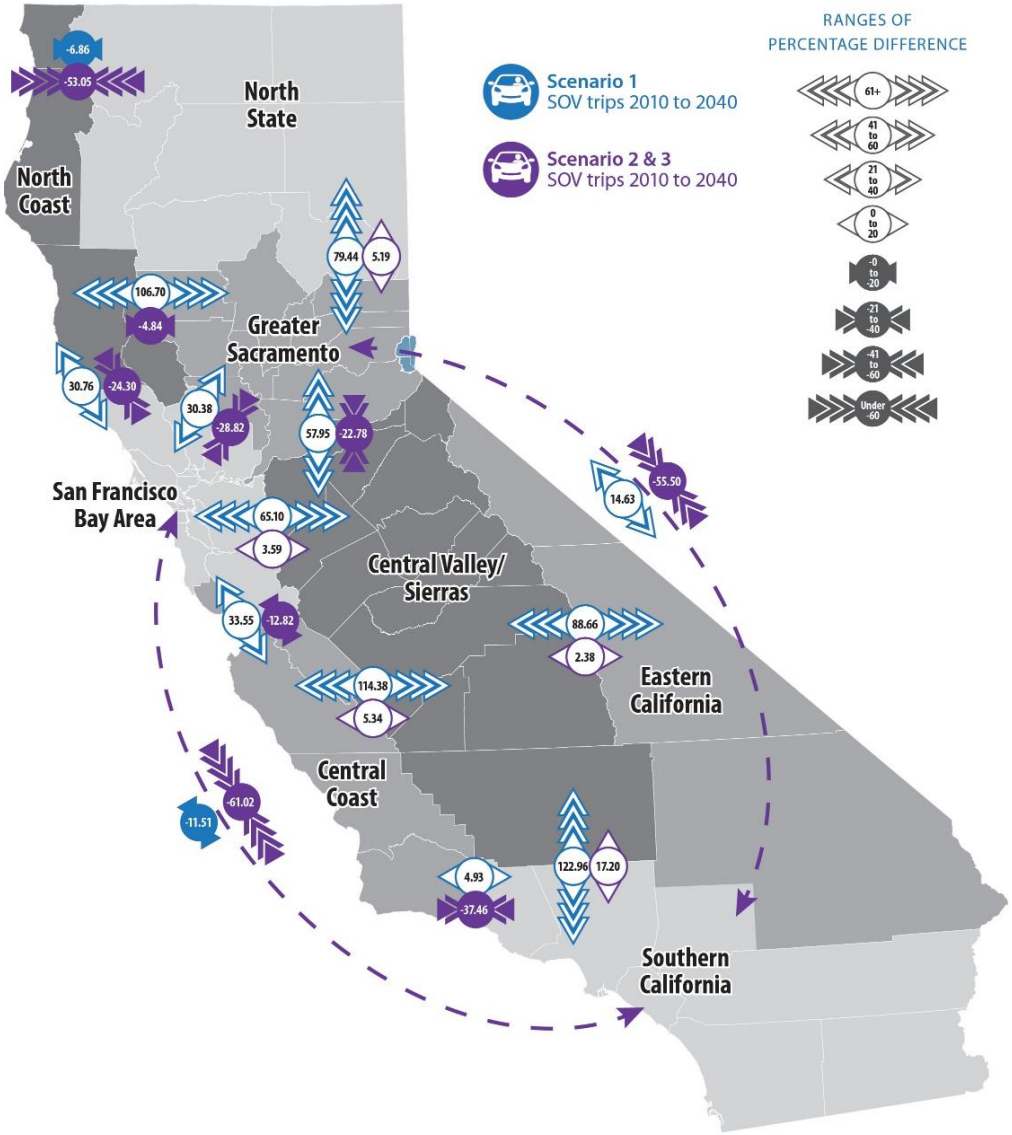
Interregional SOV Trips Scenario Comparison for 2040



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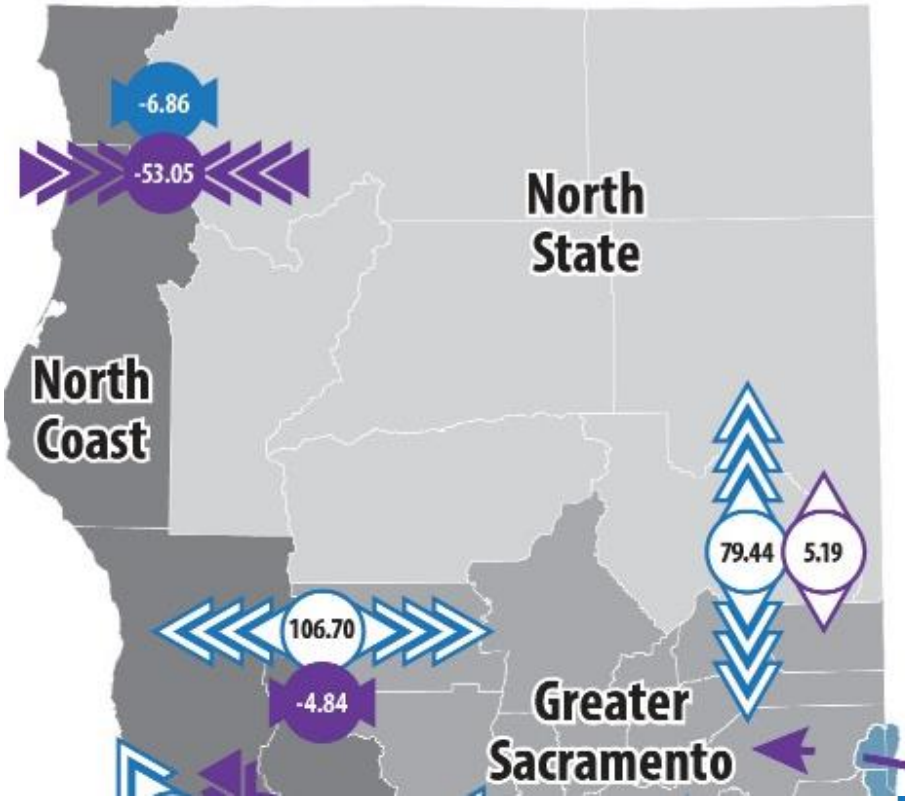
Interregional SOV Trips – North State



Scenario 1
SOV trips 2010 to 2040

Scenario 2 & 3
SOV trips 2010 to 2040

RANGES OF PERCENTAGE DIFFERENCE

61+
41 to 60
21 to 40
0 to 20
-0 to -20
-21 to -40
-41 to -60
Under -60

ITSP Regions	Scenario 1 Totals	Scenario 2 & 3 Totals
North State to/from North Coast	-6.86%	-53.05%
North State to/from Greater Sacramento	79.44%	5.19%
North Coast to/from Greater Sacramento	106.70%	-4.84%

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Transportation VMT, VHT, VHD Reduction by Scenario

VMT, VHT, VHD FOR SCENARIO 1 VS. SCENARIOS 2 & 3

	2010	2020	2040	2050
TRANSPORTATION SCENARIO 1				
Vehicle Miles Traveled (Daily Miles X 1 Million)	691	757	929	-
Vehicle Hours Of Travel (VHT) (Daily Hours X 1,000)	14,865	16,312	21,587	-
Vehicle Hours Of Delay (VHD) (Daily Hours X 1,000)	898	1,055	2,942	-
Daily VMT Per Capita (Personal Travel In Miles)	15.9	15.4	15.5	-
Daily VMT Per Capita % Difference From 2010	-	-3% ↓	-2% ↓	-
Daily Total VMT % Difference From 2010	-	10% ↑	34% ↑	-
TRANSPORTATION SCENARIOS 2 & 3				
Vehicle Miles Traveled (Daily Miles X 1 Million)	691	747 ↓	719 ↓	-
Vehicle Hours Of Travel (VHT) (Daily Hours X 1,000)	14,865	16,037 ↓	16,125 ↓	-
Vehicle Hours Of Delay (VHD) (Daily Hours X 1,000)	898	982 ↓	1,494 ↓	-
Daily VMT Per Capita (Personal Travel In Miles)	15.9	15.1 ↓	11.5 ↓	-
Daily VMT Per Capita % Difference From 2010	-	-5% ↓	-28% ↓	-
Daily Total VMT % Difference From 2010	-	8% ↑	4% ↑	-

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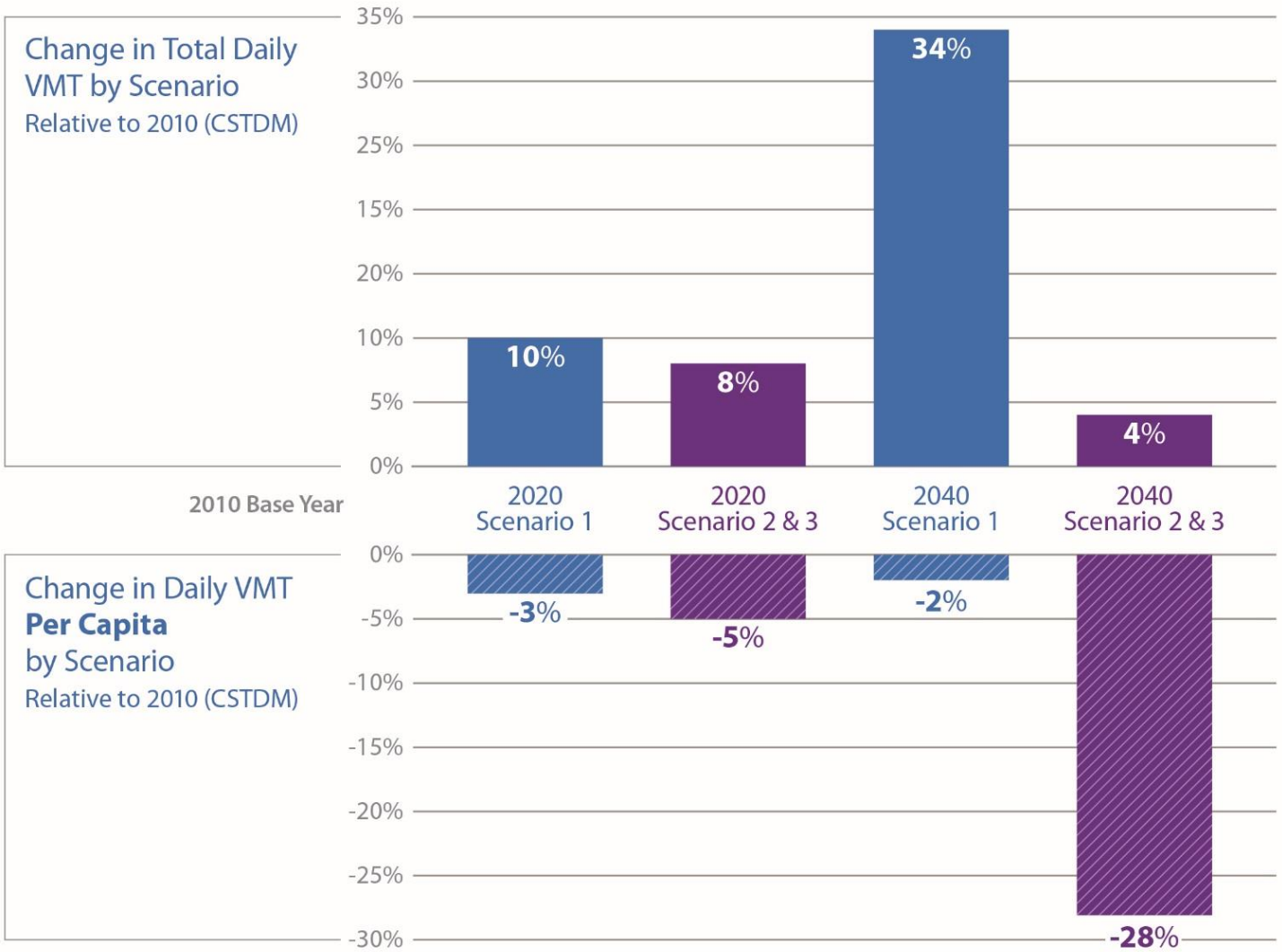
Change in Total and Per Capita Daily VMT Relative to Scenario 1 2010



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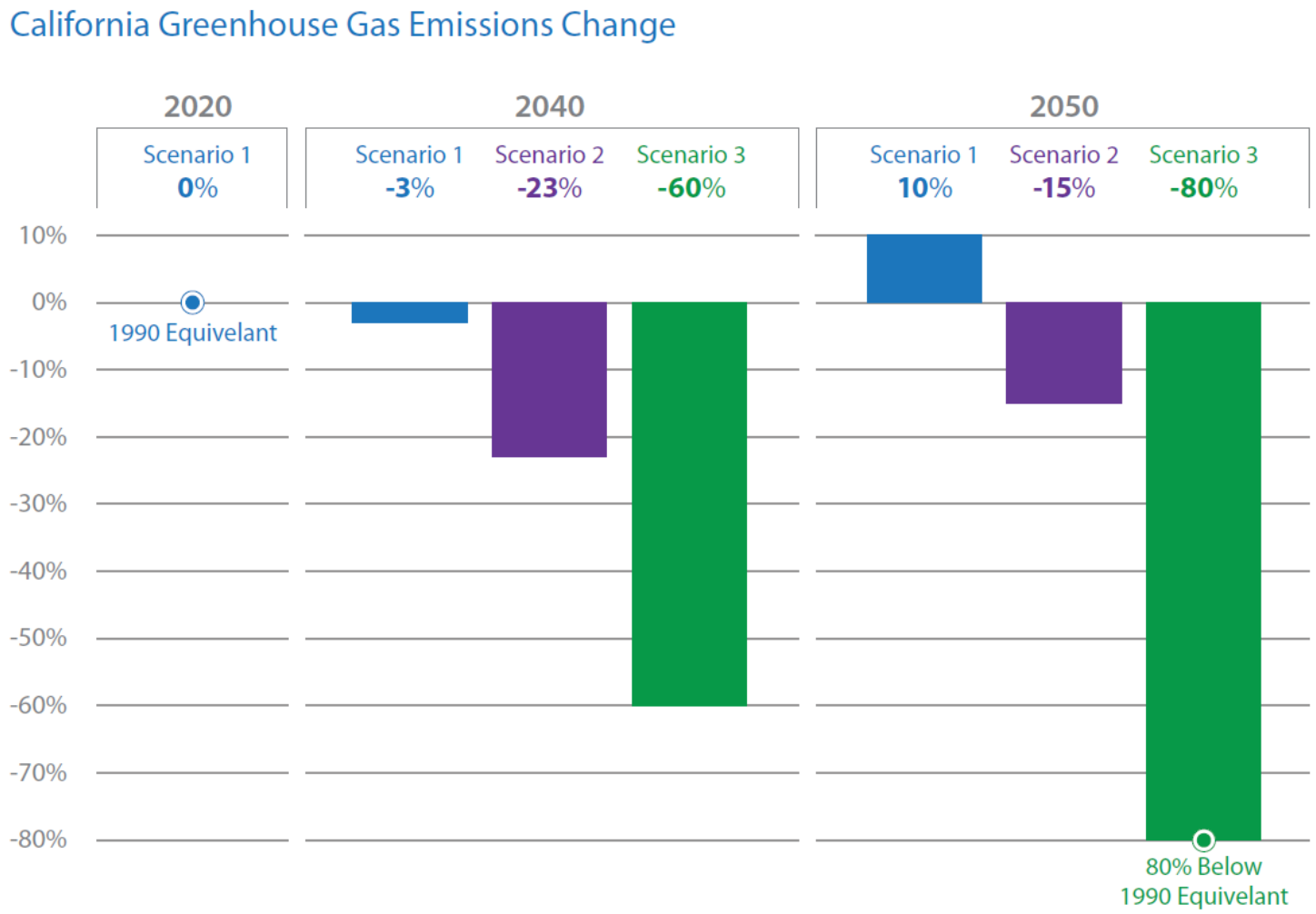
Transportation GHG Reduction by Scenario



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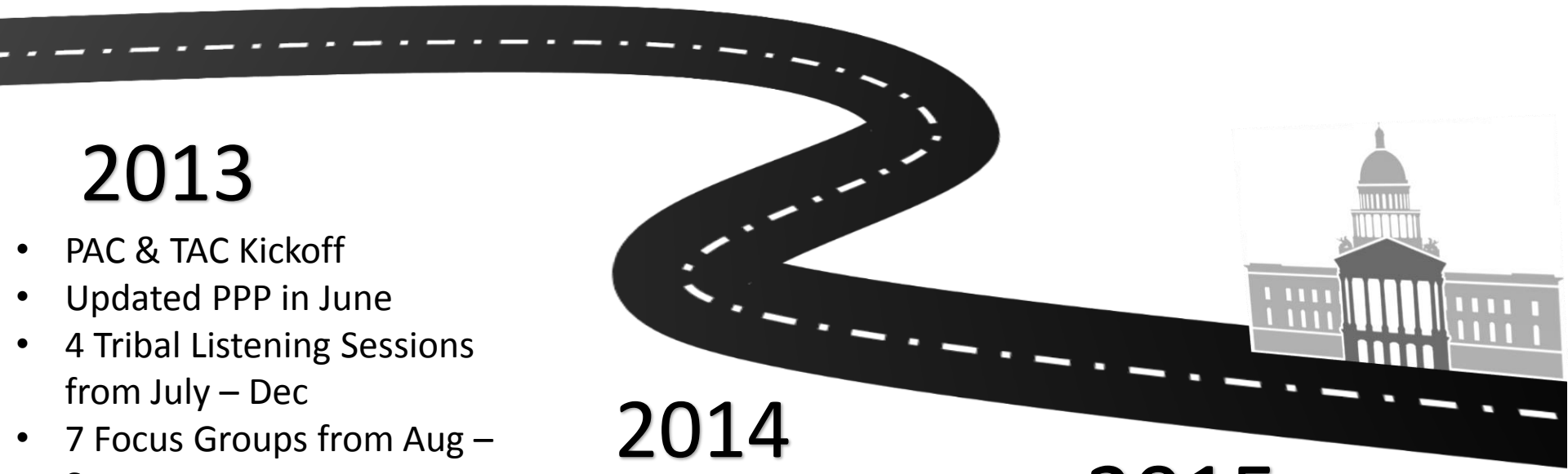
Public Participation

Timeline



2013

- PAC & TAC Kickoff
- Updated PPP in June
- 4 Tribal Listening Sessions from July – Dec
- 7 Focus Groups from Aug – Sept
- Defined Scenarios

2014

- 1st Draft
- Ongoing PAC & TAC Meetings
- Scenario Model Runs

2015

- Public & Tribal Webinar
- 7 Public Workshops
- 1st Public Review Draft Release (2nd Draft)
- Finalized Scenario Models in July

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Policy/Technical Advisory Committees

Policy Advisory Committee

- MPO/RTPA planning staff and Tribes
- State Agencies
  - SB 391 specified
  - Other key State agencies
- Advocacy Groups – modal, environmental, local, etc.
- FHWA and US EPA

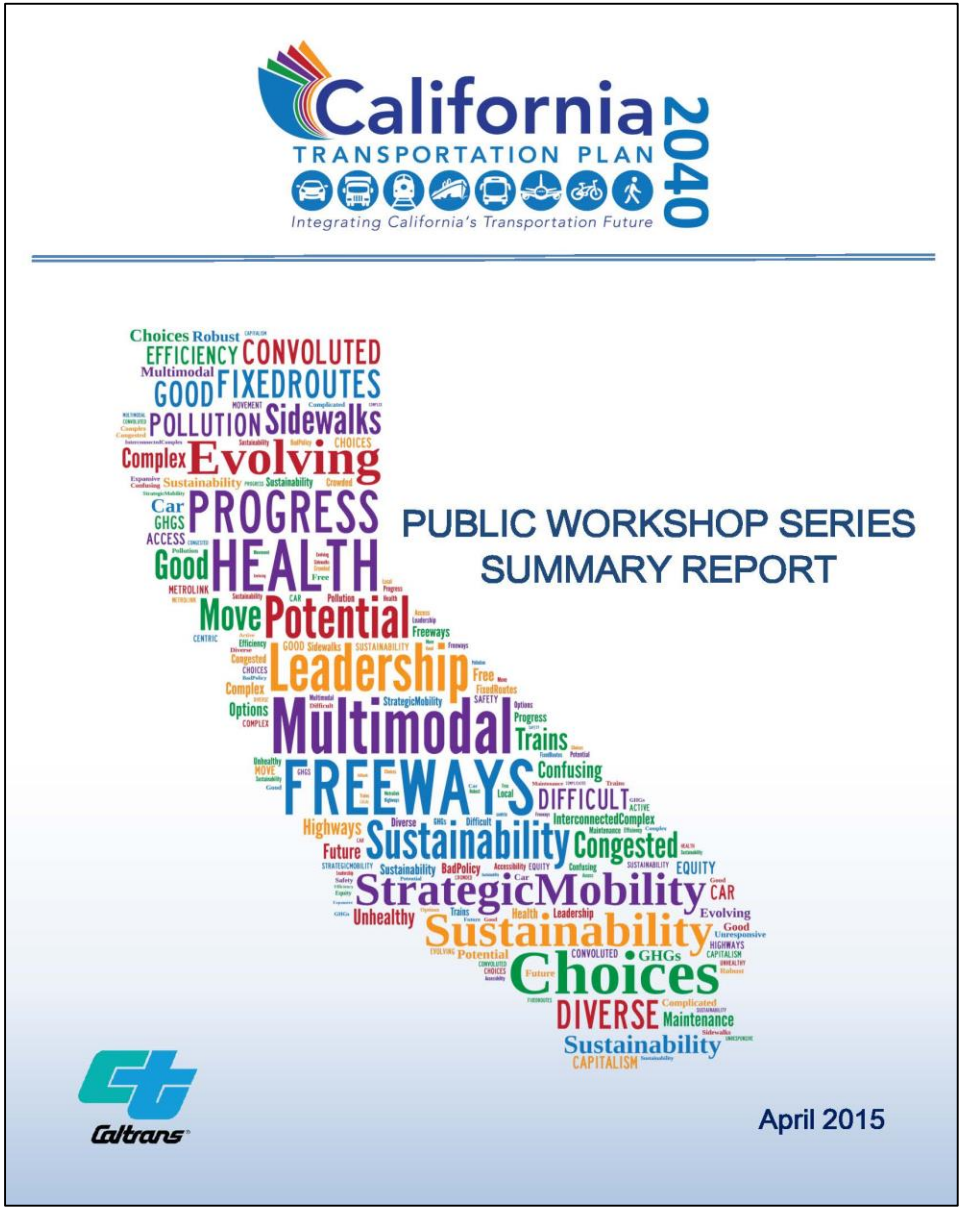
Technical Advisory Committee

- MPO/RTPA technical staff
- Key State agency staff – ARB, CEC and OPR
- CT HQ's staff – modal plans
- District modelers

Public Outreach

- **7 Focus Groups around the State**
- **4 Tribal Listening Sessions**
- **1 Public Webinar**
- **1 Tribal Webinar**
- **7 Public Workshops**
  - **Los Angeles**
  - **Oakland**
  - **San Diego**
  - **Sacramento**
  - **Riverside**
  - **Fresno**
  - **Redding**

Public Outreach



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New CTP 2040 Website

CTP2040 CALIFORNIA TRANSPORTATION PLAN

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Outreach Methods and Products

- Public Service Announcements /Press Releases
- Note Cards / Flyers
- Calendar Announcements
- Craigslist
- Twitter
- Email Blasts
- Webinars
- (Printed notices also in Spanish)

Achieving Success

Chapter 4

Achieving Success

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California TRANSPORTATION PLAN 2040

Integrating California's Transportation Future

THE VISION

SUSTAINABILITY

California's transportation system is safe, sustainable, and globally competitive. It provides reliable and efficient mobility and accessibility for people, goods, and services while meeting our greenhouse gas emission reduction goals and preserving community character. This integrated, connected, and resilient multimodal system supports a prosperous economy, human and environmental health, and social equity.

THE GOALS

1. Improve Multimodal Mobility and Accessibility for All People
2. Preserve the Multimodal Transportation System
3. Support a Vibrant Economy
4. Improve Public Safety and Security
5. Foster Livable and Healthy Communities and Promote Social Equity
6. Practice Environmental Stewardship

THE POLICIES

1	2	3	4	5	6
POLICY 1 Manage and Operate an Efficient Integrated System	**POLICY 1** Apply Sustainable Preventative Maintenance and Rehabilitation Strategies	**POLICY 1** Support Transportation Choices to Enhance Economic Activity	**POLICY 1** Reduce Fatalities, Serious Injuries, and Collisions	**POLICY 1** Expand Engagement in Multimodal Transportation Planning and Decision Making	**POLICY 1** Integrate Environmental Considerations in All Stages of Planning and Implementation
POLICY 2 Invest Strategically to Optimize System Performance	**POLICY 2** Evaluate Multimodal Life Cycle Costs in Project Decision Making	**POLICY 2** Enhance Freight Mobility, Reliability, and Global Competitiveness	**POLICY 2** Provide for System Security, Emergency Preparedness, Response, and Recovery	**POLICY 2** Integrate Multimodal Transportation and Land Use Development	**POLICY 2** Conserve and Enhance Natural, Agricultural, and Cultural Resources
POLICY 3 Provide Viable and Equitable Multimodal Choices Including Active Transportation	**POLICY 3** Adapt the Transportation System to Reduce Impacts from Climate Change	**POLICY 3** Seek Sustainable and Flexible Funding to Maintain and Improve the System		**POLICY 3** Integrate Health and Social Equity in Transportation Planning and Decision Making	**POLICY 3** Reduce Greenhouse Gas Emissions and Other Air Pollutants
					POLICY 4 Transform to a Clean and Energy Efficient Transportation System

CTP2040 CALIFORNIA TRANSPORTATION PLAN

www.californiatransportationplan2040.org

California Department of Transportation, November 2013

Caltrans

Performance Based Planning

Where we want to go	**Goal**	Key Desired Outcome
	Policy	Measureable statement that supports a goal or an outcome to achieve under each goal
How we're going to get there	**Strategy**	Specific programs, etc. to achieve policy
	PM*	Support strategies/policies by tracking results over time

Example

G:	Improve public safety and security
P:	Reduce fatalities, serious injuries, and collisions
S:	Maintain and update the California SHSP
PM*:	Fatalities/serious injuries per VMT

*PMs will have targets to identify a specific level of performance desired over a certain timeframe

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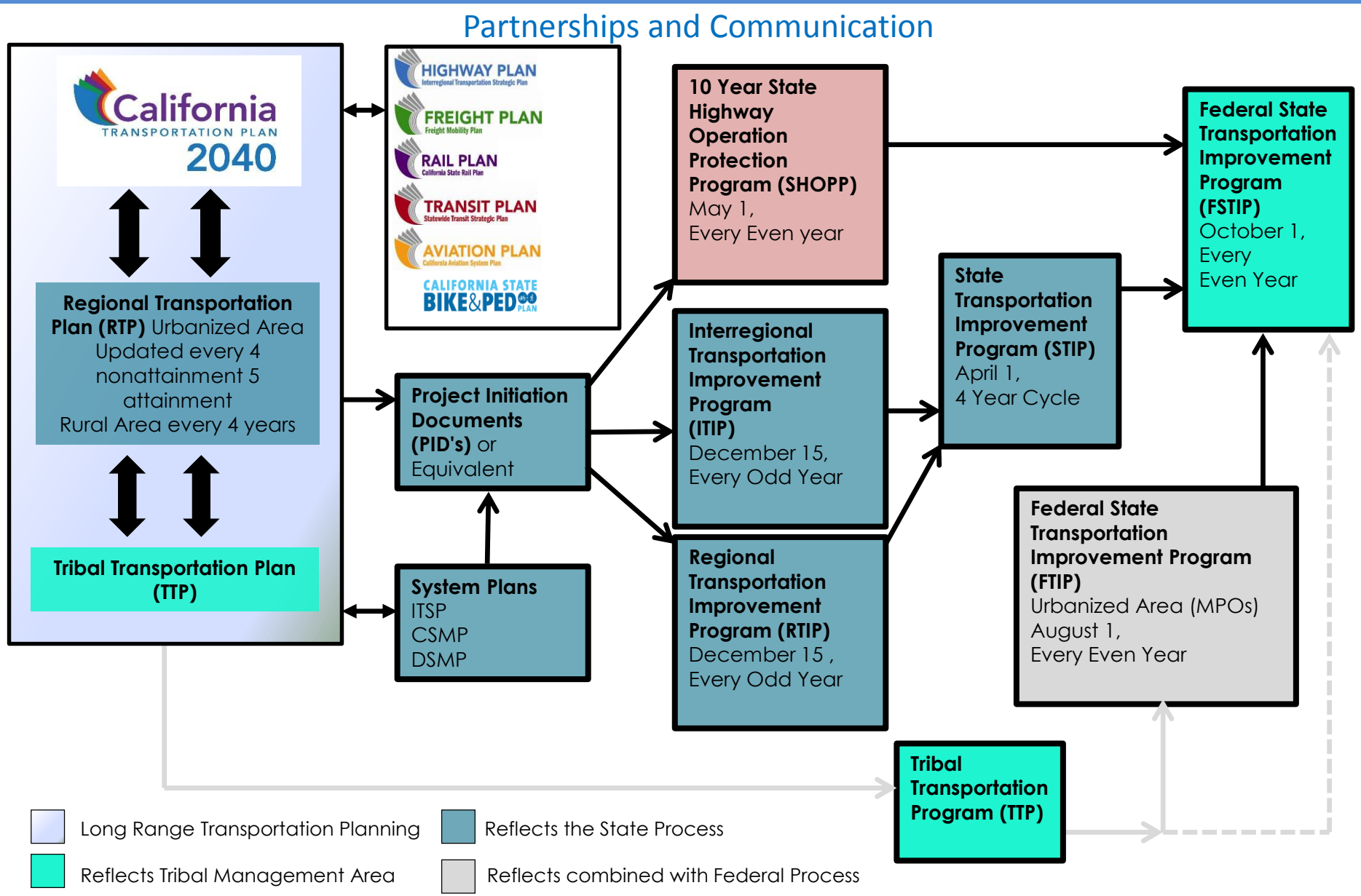
Chapter 4

Implementation Highlights

- Improve transit/complete HSR Phase 1 by 2029
- Fix it First
- Improve efficiency and technologies of highways and roads
- Improve freight efficiency and the economy
- Improve communities
- Reduce transportation-system deaths and injuries
- Expand the use and safety of bike and pedestrian facilities
- Make our vehicles and transportation fuels cleaner
- Improve public health and achieve climate/environmental goals
- Secure permanent, stable, and sufficient transportation revenue

Transportation Project Planning and Programming



What's Next

Where we are, and What's Next

- Final Draft for Public Review — March
- Incorporate Comments/Editing — April
- Final CTP 2040 — May
- CTP 2040 Implementation — June

For More Information…

Check out the CTP 2040 Website at:
www.californiatransportationplan2040.org

For Questions, Contact:
gabriel.corley@dot.ca.gov

CTP2040
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